

Bill Richards

A highly experienced Agile Development Coach and Mentor with proven excellence in BDD, DDD, and TDD with over 23 years of commercial experience involved with .Net since the Beta versions in 2001, and various other technologies, including VB, Java, Ruby, C, C++, HTML, XML, SOAP, RPC, Azure, .Net, Real Time operating Systems, hardware integration and driver development etc.

My diverse career spans, amongst others, public sector, commercial, gaming, consumer electronics, utilities, and IT services. As a technically confident senior delivery/value-focussed individual with detailed recent experience of specialisation in implementing, coaching and mentoring Agile change is something which excites.

Typically operating in a lead capacity at a Principal level, I enjoy the diversity which this brings; and I have been involved in coaching and mentoring the adoption of Agile and XP practices from the development teams up to C-level.

Some roles have involved turning around disenfranchised development teams – reinvigorating and re-engaging them and giving them a framework within which to thrive, develop and grow, wanting to take on responsibility.

I am a strong change manager, able to effectively implement and embed new working practices and methodologies, which is evident throughout my career.

I have been influential in driving forward several initiatives including assisting with the transition to an Agile environment for a major organisation; moving away from huge Rational licensing costs by implementing an alternate open-source solution following strategic considerations around long-term scalability and “supportability”; and changing architectures from a tradition of monolithic services function to micro-services, and more.

Technology	Years of experience
Visual Studio Code, PlatformIO, Visual Studio v6, .Net (v7), 2003, 2005, 2008 beta 2, 2008, 2010, 2013, 2017, 2019, 2022	23+
XML, XSL/T/FO, XPath, XSD (XML Schema), SVG, SOAP, WML	23+
Relation Databases, including: Oracle 7, 8i, 9i, 11g; SQL Server. V6.5, 7, 2000, 2005, 2008, 2012 - Express Edition, Compact Edition	23+
Document database (MongoDb)	7+
Source Control systems: SVN (Tortoise), Visual SVN, Perforce, TFS, SourceSafe, SourceGear, Mercurial, Git (Hub, Lab), VSTS	23+
HTML, DHTML, CSS, JavaScript, VBScript, WSHost	23+
C# (1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 10, 12) .net framework: beta through to 7.0, .net core 2.0, 2.1	22+
Messaging: MSMQ, Rabbit, Microsoft Message Bus	22+
NUnit, TestDriven.Net Visual Studio add-in, NCover	15+
Windows Presentation Foundation (WPF/XAML)	19+
ASPX, ASMX (ASP.net & Web Services), versions 1.0 - 2.0	15+
Java including: Servlets, Applets, JSP, Spring Boot	7+
MS Visual Basic 6, ASP 1.0, 2.0	5+
Embedded C/C++, ATL, STL, MFC, Win32 API, COM, COM+, MTS, IDL	7+
Docker, OpenShift	5+
Vagrant, Puppet, VirtualBox	2+

Other technologies

- **Ruby, RSpec, Gherkin, Cucumber, SpecLog, SpecFlow, Powershell, YAML, Jenkins**
- **FREE RTOS real time operating system**
- **ESP32, ESP8266, IC chip integration,**
- **Prism, Unity, InstallShield, Wix, NodeJs, Angular, TypeScript, Nunjucks, HAPI, PHP, JavaScript and more.**

Employment Details

May 23 – Current Offshore Operations Ltd – Winchester, Hampshire

Senior Software Engineer (Contract) – Telemetry

- **C, C++, JavaScript, HTML, Espressif ESP-IDF**
- **VB6, C# (.net7, .net8), WPF, ASP, MVC, Entity Framework Core**
- **SQLExpress, SQLite, MongoDB**
- **FreeRTOS, Windows desktop, Web, Code First data**
- **ESP32, Hardware interfacing (UART, IIC, SPI)**
- **SPIFFS virtual file system, OTA updates, WiFi**
- **Visual Studio Code, SQL Server Management Studio**
- **GitHub**

Invited back to continue helping with the research and development of an MCU based telemetry system. Having abandoned the Arduino framework for ESP32 development and instead opted for the Espressif ESP-IDF, I have been creating a series of IDF components, whose main functionality covers: configuration stored locally using the SPIFFS file system; IIC communications component which enables a master's round-robin collection of data (via the IIC Bus) from any number of connected devices, each with varying data sizes (from 1 byte up to 2Kb); OTA (Over the air) firmware and file system updates using local (to the MCU) wi-fi connectivity.

Converting Windows application from VB6 to .Net 8.0, extended functionality and bug fixes, including but not limited to an updated data storage using SQLServer/SQLExpress/SQLite and EntityFrameworkCore

January 22 – March 23 Underwriters Laboratories, Basingstoke, Hants

Senior Software Engineer (Contract)

- **C#, , Powershell , Xml, JSON**
- **MongoDb**
- **RF Testing (Broadcom and Qualcomm)**
- **Laboratory Test Automation**
 - **Automation of Equipment Under Test**
 - **Automation of testing equipment**
- **Laboratory Test Equipment interfacing (GPIB, Eth) and automation**
 - **Boonton Power Sensors, R&S Signal Analyzers, Pickering Switches**

Underwriters Laboratories (UL) are primarily a safety testing organisation, highly regarded within their field of expertise. They provide testing of many different products and product types and their seal is internationally recognised as an endorsement for products operating within and conforming to specific standards as detailed by various international committees.

Engaged to extend the functionality of existing testing tools in order to automate the testing of a new standard (EN303687) and to extend the tool to test against the updated EN301893(6e) to cater for 5GHz transmissions.

The work initially involved reverse engineering (using dotPeek) and some detective work in piecing together a "best fit" base for the source code. Refactoring the code enabled me to gain an understanding of how the software worked, how it hangs together and the framework upon which it was built.

Whilst extending the tool through code, various ways were found to making the tool more easily extensible by externalising several data points, which had ultimately been part of the reason for requiring the current coding exercise.

December 20 – January 22 Offshore Operations Ltd – Winchester, Hampshire

Senior Software Engineer (Contract) – Telemetry

- **C/C++, PHP, JavaScript, JQuery**
- **FreeRTOS, Mosquitto, Node-Red**
- **Hardware interfacing (UART, I2C, SPI)**
- **WiFi, 433MHz, LoRa, MQTT, ESP-NOW, ESP_MESH**
- **Rpi, ESP32, ESP8266, W&T PureBox, W&T COM Server**
- **MySQL, SQLite, PlatformIO**
- **GitHub**

A Research and Development role, ascertaining the usability of various hardware items ranging from processing modules (eg. ESP32-WROOM-32/U, ESP8266, etc.), development boards, (eg. NodeMCU, Espressif ESP332 Dev Kit, etc.), sensors (eg. IMU ICUs, etc.), communications protocols and platforms (eg. ESP-NOW, LoRa, Wifi, 433MHz radio, etc.).

One of the hardware platforms (W&T Purebox 3.0) runs a Debian distribution and is used as a TCP gateway for various serial comms peripheral devices. The server can act as a data repository using a MySQL database or SQLite. Services are installed and run on the server using PHP. Control of the services is achieved via a bespoke PHP implemented control panel.

The Espressif micro-controllers run a FreeRTOS port, and are programmed using C and C++ (OO is supported, but with only a subset of the STD library). With exception of the ESP32-WROOM-32/U chips the controllers are single core. Multi-threading is supported by the RTOS, as are Interrupt Service Routines, which makes it ideal for running on such micro-controllers. The Espressif ESP8266 and ESP32 chips run integrated Wifi and the ESP-NOW and ESP-MESH communication protocols, with the ESP32 also supporting Bluetooth BLE.

Unfortunately, due to a COVID related downturn in investment within the sector which Offshore Operations are concerned, the business found itself in the position of being unable to support further R&D.

July 20 – November 20 Messer Cutting Systems GmbH - Groß-Umstadt, Germany

Senior Software Engineer (Contract)

- **C#, WPF, PowerShell, PRISM**
- **Hardware interfacing to CNC, Beckenhoff TwinCAT**
- **Pivotal Tracker**
- **Git (Bitbucket), Mercurial**

During this engagement I had instigated several architectural discussions in order to impart my knowledge and experience of developing composite applications using the PRISM framework; properly implementing IoC through DI - extolling the benefits and conversely the drawbacks of not using it properly.

This engagement was terminated due to a downturn in construction, and consequently machine sales for Messer, brought about as a direct result of the COVID-19 pandemic.

January 20 – April 20 CNL Software Ltd - Camberley, Surrey

Senior Software Engineer (Permanent)

- **C#, VB.NET, WinForms, WPF, WCF. PRISM**
- **WIX**
- **SqlServer**
- **PowerShell, Cucumber/Gherkin**
- **Jira, Confluence**
- **VTSTS (not Git)**

Employed as a Senior Developer to bring experience and skills to a relatively junior development team: to advise on and encourage industry accepted patterns and standards of development; to modernize and update the UI (using WPF) from WinForms; to assist on breaking a monolithic application into a micro-service architecture; to lead new development whilst conforming to industry standard methodologies, patterns and practices.

I introduced the concept of feature branching and the GitFlow model; demonstrated the implementation of Inversion of Control through Dependency Injection, and the use of the PRISM Framework, by reworking several components and implementing new ones.

July 19 – Dec 19 Supply Point Systems - Portchester, Hampshire

Senior Software Engineer (Permanent)

- **C#, WinForms, .net Core, MS MVC, Angular**
- **Docker**
- **SqlServer**
- **CI/CD pipeline using Kiln, TeamCity, PowerShell**
- **BitBucket, Jira, FogBugz**
- **Hardware interfacing using MODBUS protocol, and proprietary protocol**

Hired to fill the Development Lead role, guiding technology uptake, mentoring less senior team members, introducing Continuous Integration and setting up the development pipeline to accommodate this, I was partly responsible modernising the development workflow: moved source from FogBugz's Kiln to BitBucket and introduced the Git-Flow development process; assisted in moving active issues from FogBugz into Jira.

I mentored the team in the how, why and what of peer-reviews for coding tasks. I introduced configuration as code for build job definitions in TeamCity, coached junior developers in development practices (SOLID, KISS, paired-programming) and Object Oriented design and implementation.

Worked closely with the Development Manager in identifying the skills and needs of the individuals within the team, I assisted in introducing The Three Amigos, User Stories and acceptance criteria whilst re-shaping the testing team into a QA team.

The R & D function is split across sites within the UK, Romania, and the USA, and I assisted in the hiring process to fill roles in each of these locations.

October 18 – March 19 Veterinary Medicines Directorate (VMD) - New Haw, Surrey.

Agile Senior Software Engineer (Contract)

- C#, .NetCore, Web API, NSwag, Node.js, PowerShell, xUnit
- Node Red, Nunjucks, SeriLog, ELK Stack
- MongoDB
- CI/CD pipeline using Github, Jenkins, Docker, Azure
- Open Source
- JIRA, Confluence

May 18 – July 18 BMW Financial Services - Farnborough.

Agile Software Engineer (Contract)

- C#, VB.Net,
- Oracle, PL/SQL, SQL Developer
- CI pipeline using Bitbucket, Jenkins, Docker, Openshift
- RabbitMQ
- JIRA & Confluence

Oct 17 – April 18 Omnicore Group Ltd – Eastleigh.

Contract Software Engineer

- C#
- XAML (WPF), MVVM
- REST & WCF
- SOAP
- Angular, Typescript
- C++ & COM
- SQL Server & T/SQL
- Multithreading, IOC (using MS Unity and PRISM), API development
- Moq + Nunit, PowerShell
- CI pipeline using Jenkins and VSTS

Sept 16 – April 17 Ordnance Survey Ireland – Dublin.

Contract Agile Coach (tactical)

- SpecLog
- RSpec, Cucumber/Gherkin
- Setting up CI pipeline using Jenkins and Gitlab
- Jira & Confluence

Oct 15 – Sept 16 Ordnance Survey – Southampton.

Contract Agile Software Surgeon (Microservices Development) and Mentor

- Java 8 , Springboot, YAML
- Ruby, RSpec
- CI/CD pipeline using Jenkins, SVN, and Cucumber/Gherkin
- RabbitMQ
- Oracle LINUX

Dec 14 – Feb 15 Escalon Ltd – Watford.

Agile Consultant

- User Story shaping (definition and refinement)
- Test strategy specification
- Acceptance test shaping

May 14 – Dec 14 Ordnance Survey – Southampton.

Contract Senior Agile .Net developer

- .net 4.0, Visual Studio 2013 C# 4.0, WCF, WIX
- Oracle 11g, Oracle BPEL integration
- Agile, Scrum, Kanban, Continuous Integration (Jenkins), Powershell scripting
- Git, SVN, Bash, Puppet, Vagrant
- CI/CD pipeline using Jenkins, NUnit, SpecLog, SpecFlow, Ruby, Gherkin, ReSharper
- Windows 7, Windows 2008 Server, Win32 Services, LINUX

Nov 11 – June 13 Ordnance Survey – Southampton.

Contract Agile Coach and Mentor/.Net developer

Aug 11 – Nov 11 Betfair – Hammersmith, W6.

Contract Agile .Net developer (WPF/PRISM specialist)

March 11 – May 11 Sony Europe – Basingstoke, Hants.

Contract Lead .Net developer (PRISM specialist)

Jan 10 – Jan 11 Cincom Systems (UK) Ltd – Maidenhead, Berks.

Contract Composite Application Library for WPF (PRISM) specialist/Agile mentor

Oct 09 – Jan 10 Centrica – Staines, Surrey.

Contract Software Developer, (PRISM & TDD specialist)

Dec 08 – May 09 EuroKing Miracle Limited. – Addlestone, Surrey.

Contract Analyst/Software Developer, .Net Consultant

Oct 08 – Nov 08 Elateral Limited. – Farnham, Surrey.

Contract Agile Developer, .Net Consultant (PRISM specialist), Team Leader

May 08 – Oct 08 EuroKing Miracle Limited. – Addlestone, Surrey.

Contract Analyst/Software Developer, .Net Consultant

Oct 07 – Jan 08 Geoff Howe Ltd. – Hampton, Surrey.

Contract Analyst /Software Developer

Sept 07 – Oct 07 Compel Reach Ltd. – Guildford, Surrey.

Contract Analyst /Software Developer

Jul 06 – Sept 07 BizCase Ltd. – Farnham, Surrey.

Contract Analyst /Software Developer

Jan 06 – May 06 Systems Union Ltd. – Farnborough, Surrey.

Contract Consultant/Software Developer

Aug 05 – Oct 05 Atos Origin (DEFRA) – Guildford, Surrey.

Contract Consultant/Software Developer

Oct 04 – June 05 iMeta Technologies – Southampton, Hampshire.

Contract Consultant/Software Developer

Aug 04 – Sept 04 Online Travel Corporation Plc – Teddington, Middlesex.

Contract .Net Consultant/Developer

Feb 04 – Aug 04 Advantage Technical Consulting – Farnham, Surrey.

Contract Software Developer

Jan 02 – Feb 04 Patientline Ltd – Slough, Berkshire.

Software Developer, Permanent Staff

Feb 01 – Oct 01 wwa.sysmed – Egham, Surrey.

Software Developer, Permanent Staff

April 00 – Jan 01 Sopheon – Guildford, Surrey.

Software Developer, Permanent Staff

Education

Sep 96 – May 99	UCNW Bangor.	BA(Hons) Linguistics and the English Language
Sep 95 – June 96	NESCOT, Surrey.	A Level Psychology
1985 – 1990	Ewell High School	9 GCSE 2 A level